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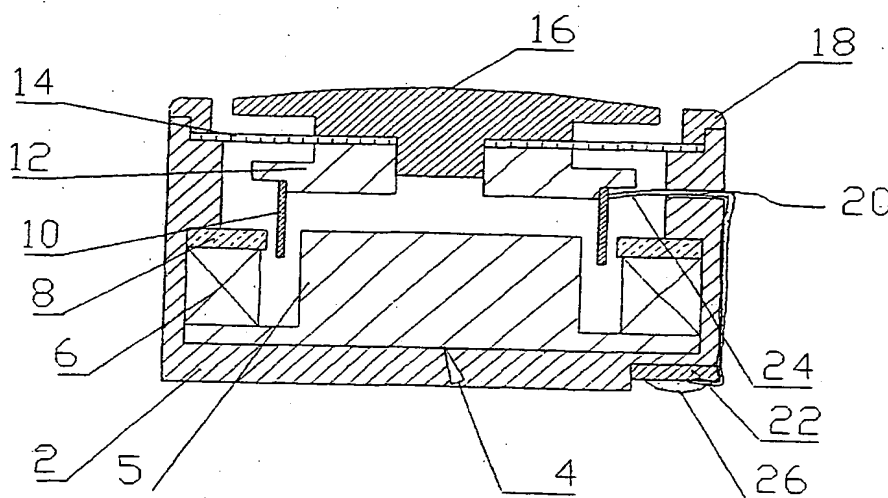
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(54) Title: SUBMINIATURE BONE VIBRATING SPEAKER USING THE DIAPHRAGM AND MOBILE PHONE THEREBY



(57) Abstract: The present invention relates to a subminiature bone conduction speaker by using a vibrating plate and a mobile phone having the subminiature bone conduction speaker. A subminiature bone conduction speaker using a vibrating plate according to the present invention comprises a body having a shape of a cylinder of which upper portion is opened; yoke which is disposed in a lower portion of the body and of which center has a protrusion; a ring type magnet which is formed on the edge of the yoke and apart from an end portion of the protrusion by a predetermined clearance; an upper plate which is formed on

the magnet; a mastoid which is contacted to bone conduction of a user and by which vibration is transmitted to the user; an acoustic vibrating plate which is inserted at a lower side of the mastoid to cover the opening portion of the body and which is made of an elastic material; an auxiliary vibrating plate which is inserted under the acoustic vibrating plate which is inserted to the mastoid; a voice coil which is attached to the auxiliary vibrating plate and which is inserted between the end portion of the protrusion of the yoke and the ring type magnet; a front cap for fixing the acoustic vibrating plate on the body; and a electrical signal input unit for inputting an electric signal to the voice coil.